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DATE: 01/29/2003
TIME: 15:12:54

RAW SEQUENCE LISTING
PATENT APPLICATION: **US/09/937,100A**

Input Set : **A:\Merk2309.app**
Output Set: **N:\CRF4\01292003\I937100A.raw**

```
      3 <110> APPLICANT: THIERAUCH, KARL-HEINZ
      4        GLIENKE, JENS
      5        HINZMAN, BERND
      6        PILARSKY, CHRISTIAN
      8 <120> TITLE OF INVENTION: PROTEIN ISOLATION AND ANALYSIS
     10 <130> FILE REFERENCE: MERCK 2309
     12 <140> CURRENT APPLICATION NUMBER: 09/937,100A
C--> 13 <141> CURRENT FILING DATE: 2002-04-22
     15 <150> PRIOR APPLICATION NUMBER: PCT/GB00/01015
     16 <151> PRIOR FILING DATE: 2000-03-17
     18 <150> PRIOR APPLICATION NUMBER: 9906551.8 GB
     19 <151> PRIOR FILING DATE: 1999-03-23
     21 <150> PRIOR APPLICATION NUMBER: 9907057.5 GB
     22 <151> PRIOR FILING DATE: 1999-03-29
     24 <150> PRIOR APPLICATION NUMBER: 9907641.6 GB
     25 <151> PRIOR FILING DATE: 1999-04-06
     27 <150> PRIOR APPLICATION NUMBER: 9914874.4 GB
     28 <151> PRIOR FILING DATE: 1999-06-28
     30 <150> PRIOR APPLICATION NUMBER: 9915363.7 GB
     31 <151> PRIOR FILING DATE: 1999-07-02
     33 <150> PRIOR APPLICATION NUMBER: 9915677.0 GB
     34 <151> PRIOR FILING DATE: 1999-07-06
     36 <150> PRIOR APPLICATION NUMBER: 9916511.0 GB
     37 <151> PRIOR FILING DATE: 1999-07-14
     39 <150> PRIOR APPLICATION NUMBER: 9920503.1 GB
     40 <151> PRIOR FILING DATE: 1999-08-31
     42 <150> PRIOR APPLICATION NUMBER: 9922285.3 GB
     43 <151> PRIOR FILING DATE: 1999-09-21
     45 <160> NUMBER OF SEQ ID NOS: 69
     47 <170> SOFTWARE: PatentIn Ver. 2.1
     49 <210> SEQ ID NO: 1
     50 <211> LENGTH: 24
     51 <212> TYPE: DNA
     52 <213> ORGANISM: Artificial Sequence
     54 <220> FEATURE:
     55 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
     56        oligonucleotide for an 8 amino acid barcode peptide
     58 <220> FEATURE:
     59 <221> NAME/KEY: CDS
     60 <222> LOCATION: (1)..(24)
     61 <223> OTHER INFORMATION:
     63 <220> FEATURE:
     64 <221> NAME/KEY: misc_feature
```

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```
      65 <222> LOCATION: (1)..(1)
      66 <223> OTHER INFORMATION: n=a,t,g,c
W--> 68 <220>
      69 <221> NAME/KEY: misc_feature
      70 <222> LOCATION: (4)..(4)
      71 <223> OTHER INFORMATION: n=a,t,g,c
      73 <220> FEATURE:
      74 <221> NAME/KEY: misc_feature
      75 <222> LOCATION: (7)..(7)
      76 <223> OTHER INFORMATION: n=a,t,g,c
      78 <220> FEATURE:
      79 <221> NAME/KEY: misc_feature
      80 <222> LOCATION: (10)..(10)
      81 <223> OTHER INFORMATION: n=a,t,g,c
      83 <220> FEATURE:
      84 <221> NAME/KEY: misc_feature
      85 <222> LOCATION: (14)..(14)
      86 <223> OTHER INFORMATION: k=g,t
      88 <220> FEATURE:
      89 <221> NAME/KEY: misc_feature
      90 <222> LOCATION: (16)..(16)
      91 <223> OTHER INFORMATION: v=a,g,c
      93 <220> FEATURE:
      94 <221> NAME/KEY: misc_feature
      95 <222> LOCATION: (20)..(20)
      96 <223> OTHER INFORMATION: n=a,g,t,c
      98 <220> FEATURE:
      99 <221> NAME/KEY: misc_feature
     100 <222> LOCATION: (21)..(21)
     101 <223> OTHER INFORMATION: v=a,g,c
     103 <220> FEATURE:
     104 <221> NAME/KEY: misc_feature
     105 <222> LOCATION: (23)..(23)
     106 <223> OTHER INFORMATION: n=a,t,g,c
     108 <400> SEQUENCE: 1
W--> 109 nac ncc ngg ntg tkc vag gnv cnt                       24
W--> 110 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
     111 1               5
     114 <210> SEQ ID NO: 2
     115 <211> LENGTH: 8
     116 <212> TYPE: PRT
     117 <213> ORGANISM: Artificial Sequence
     119 <220> FEATURE:
     120 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
     121       barcode peptide
     123 <220> FEATURE:
     124 <221> NAME/KEY: misc_feature
     125 <222> LOCATION: (1)..(1)
     126 <223> OTHER INFORMATION: The 'Xaa' at location 1 stands for Asn, Asp, His, or Tyr.
```

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```
128 <220> FEATURE:
129 <221> NAME/KEY: misc_feature
130 <222> LOCATION: (2)..(2)
131 <223> OTHER INFORMATION: The 'Xaa' at location 2 stands for Thr, Ala, Pro, or Ser.
133 <220> FEATURE:
134 <221> NAME/KEY: misc_feature
135 <222> LOCATION: (3)..(3)
136 <223> OTHER INFORMATION: The 'Xaa' at location 3 stands for Arg, Gly, or Trp.
138 <220> FEATURE:
139 <221> NAME/KEY: misc_feature
140 <222> LOCATION: (4)..(4)
141 <223> OTHER INFORMATION: The 'Xaa' at location 4 stands for Met, Val, or Leu.
143 <220> FEATURE:
144 <221> NAME/KEY: misc_feature
145 <222> LOCATION: (5)..(5)
146 <223> OTHER INFORMATION: The 'Xaa' at location 5 stands for Cys, or Phe.
148 <220> FEATURE:
149 <221> NAME/KEY: misc_feature
150 <222> LOCATION: (6)..(6)
151 <223> OTHER INFORMATION: The 'Xaa' at location 6 stands for Lys, Glu, or Gln.
153 <220> FEATURE:
154 <221> NAME/KEY: misc_feature
155 <222> LOCATION: (7)..(7)
156 <223> OTHER INFORMATION: The 'Xaa' at location 7 stands for Glu, Asp, Gly, Ala, or
Val.
158 <220> FEATURE:
159 <221> NAME/KEY: misc_feature
160 <222> LOCATION: (8)..(8)
161 <223> OTHER INFORMATION: The 'Xaa' at location 8 stands for His, Arg, Pro, or Leu.
163 <400> SEQUENCE: 2
W--> 164 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
165 1               5
168 <210> SEQ ID NO: 3
169 <211> LENGTH: 14
170 <212> TYPE: PRT
171 <213> ORGANISM: Artificial Sequence
173 <220> FEATURE:
174 <223> OTHER INFORMATION: Description of Artificial Sequence: Linker
175       peptide
177 <400> SEQUENCE: 3
178 Glu Gly Lys Ser Ser Gly Ser Gly Ser Glu Ser Lys Val Asp
179 1               5                   10
182 <210> SEQ ID NO: 4
183 <211> LENGTH: 8
184 <212> TYPE: PRT
185 <213> ORGANISM: Artificial Sequence
187 <220> FEATURE:
188 <223> OTHER INFORMATION: Description of Artificial Sequence: Flag
189       epitope peptide
191 <400> SEQUENCE: 4
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Input Set : **A:\Merk2309.app**
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192 Met Asp Tyr Lys Asp Asp Asp Lys
193 1   5
196 <210> SEQ ID NO: 5
197 <211> LENGTH: 53
198 <212> TYPE: DNA
199 <213> ORGANISM: Artificial Sequence
201 <220> FEATURE:
202 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
203   RD5' Flag
205 <400> SEQUENCE: 5
206 gcggatccca tatggactac aaagacgatg acgacaaaca ggtgcagctg cag   53
209 <210> SEQ ID NO: 6
210 <211> LENGTH: 35
211 <212> TYPE: DNA
212 <213> ORGANISM: Artificial Sequence
214 <220> FEATURE:
215 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
216   RD3'
218 <400> SEQUENCE: 6
219 gcgaattcgt ggtggtggtg gtggtgtgac tctcc   35
222 <210> SEQ ID NO: 7
223 <211> LENGTH: 50
224 <212> TYPE: DNA
225 <213> ORGANISM: Artificial Sequence
227 <220> FEATURE:
228 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
229   Fos1for
231 <400> SEQUENCE: 7
232 atggaattcc tcgagaccga caccctacag gcggaaaccg accagctgga   50
235 <210> SEQ ID NO: 8
236 <211> LENGTH: 50
237 <212> TYPE: DNA
238 <213> ORGANISM: Artificial Sequence
240 <220> FEATURE:
241 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
242   Fos80rev
244 <400> SEQUENCE: 8
245 tcgcgatttc ggtttgcagc gcggattttt cgtcttccag ctggtcggtt   50
248 <210> SEQ ID NO: 9
249 <211> LENGTH: 50
250 <212> TYPE: DNA
251 <213> ORGANISM: Artificial Sequence
253 <220> FEATURE:
254 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
255   Fos71for
257 <400> SEQUENCE: 9
258 aaaccgaaat cgcgaacctg ctgaaagaaa aagaaaagct ggagttcatc   50
261 <210> SEQ ID NO: 10
262 <211> LENGTH: 50

RAW SEQUENCE LISTING   DATE: 01/29/2003
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Input Set : **A:\Merk2309.app**
Output Set: **N:\CRF4\01292003\I937100A.raw**

```
263 <212> TYPE: DNA
264 <213> ORGANISM: Artificial Sequence
266 <220> FEATURE:
267 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
268       Fos155rev
270 <400> SEQUENCE: 10
271 ggaagcttga attccgccgg acggtgtgcc gccaggatga actccagctt          50
274 <210> SEQ ID NO: 11
275 <211> LENGTH: 18
276 <212> TYPE: DNA
277 <213> ORGANISM: Artificial Sequence
279 <220> FEATURE:
280 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
281       Fos1 fS
283 <400> SEQUENCE: 11
284 atggaattcc tcgagacc                                             18
287 <210> SEQ ID NO: 12
288 <211> LENGTH: 18
289 <212> TYPE: DNA
290 <213> ORGANISM: Artificial Sequence
292 <220> FEATURE:
293 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer
294       Fos155 rS
296 <400> SEQUENCE: 12
297 ggaagcttga attccgcc                                             18
300 <210> SEQ ID NO: 13
301 <211> LENGTH: 28
302 <212> TYPE: DNA
303 <213> ORGANISM: Artificial Sequence
305 <220> FEATURE:
306 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer I
307       for 340 VH amplification
309 <400> SEQUENCE: 13
310 cagctgcagg agtctggggg aggcttag                                  28
313 <210> SEQ ID NO: 14
314 <211> LENGTH: 36
315 <212> TYPE: DNA
316 <213> ORGANISM: Artificial Sequence
318 <220> FEATURE:
319 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer II
320       for 340 VH amplification
322 <400> SEQUENCE: 14
323 tcagtagacg gtgaccgagg ttccttgacc ccagta                         36
326 <210> SEQ ID NO: 15
327 <211> LENGTH: 26
328 <212> TYPE: DNA
329 <213> ORGANISM: Artificial Sequence
331 <220> FEATURE:
332 <223> OTHER INFORMATION: Description of Artificial Sequence: Primer I
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 01/29/2003
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Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

```
Seq#:1; N Pos. 1,4,7,10,20,23
Seq#:1; Xaa Pos. 1,2,3,4,5,6,7,8
Seq#:2; Xaa Pos. 1,2,3,4,5,6,7,8
Seq#:27; N Pos. 21,24
Seq#:28; N Pos. 21,24
Seq#:29; N Pos. 21,24
Seq#:30; N Pos. 21,24
Seq#:31; N Pos. 21,24
Seq#:32; N Pos. 7,10
Seq#:33; N Pos. 7,10
Seq#:34; N Pos. 7,10
Seq#:35; N Pos. 7,10
Seq#:36; N Pos. 7,10
Seq#:58; N Pos. 31,32,34,35,37,38,40,41,43,44,46,47,49,50
Seq#:58; Xaa Pos. 11,12,13,14,15,16,17
Seq#:59; Xaa Pos. 11,12,13,14,15,16,17
Seq#:60; N Pos. 28,29,31,32,34,35,37,38,40,41,43,44,46,47
Seq#:61; N Pos. 14,15,17,18,20,21,23,24,26,27,29,30,32,33,35,36,38,39,41,42
Seq#:61; Xaa Pos. 5,6,7,8,9,10,11,12,13,14
Seq#:62; Xaa Pos. 5,6,7,8,9,10,11,12,13,14
Seq#:63; N Pos. 29,30,32,33,35,36,38,39,41,42,44,45,47,48,50,51,53,54,56,57
Seq#:64; N Pos. 15,18,19,22,25,28,38,41
Seq#:64; Xaa Pos. 7,8,9,10,11,12,13,14
Seq#:65; Xaa Pos. 7,8,9,10,11,12,13,14
Seq#:66; N Pos. 14,17,27,30,33,36
Seq#:67; N Pos. 15,18,19,22,25,28,38,41,48,51,52,55,58,61,71,74
Seq#:67; Xaa Pos. 7,8,9,10,11,12,13,14,18,19,20,21,22,23,24,25
Seq#:68; Xaa Pos. 7,8,9,10,11,12,13,14,18,19,20,21,22,23,24,25
Seq#:69; N Pos. 14,17,27,30,33,36,47,50,60,63,66,69
```

VERIFICATION SUMMARY   DATE: 01/29/2003
PATENT APPLICATION: **US/09/937,100A**   TIME: 15:12:55

Input Set : **A:\Merk2309.app**
Output Set: **N:\CRF4\01292003\I937100A.raw**

L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:68 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:1,Line#:61
L:109 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:110 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:24
L:164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:502 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:0
L:525 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0
L:548 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0
L:571 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0
L:594 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0
L:617 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0
L:640 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0
L:663 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0
L:686 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0
L:709 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0
L:1017 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:58,Line#:1010
L:1083 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58 after pos.:0
L:1084 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58 after pos.:48
L:1087 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58 after pos.:48
L:1088 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:58 after pos.:77
L:1151 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59 after pos.:0
L:1154 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59 after pos.:16
L:1239 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60 after pos.:0
L:1263 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:61,Line#:1256
L:1359 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:0
L:1360 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:61 after pos.:49
L:1448 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:62 after pos.:0
L:1566 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:63 after pos.:0
L:1589 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:64,Line#:1582
L:1645 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:64 after pos.:0
L:1646 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:64 after pos.:48
L:1703 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:65 after pos.:0
L:1762 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66 after pos.:0
L:1784 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:67,Line#:1777
L:1890 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:67 after pos.:0
L:1891 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:67 after pos.:48
L:1894 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:67 after pos.:48
L:1895 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:67 after pos.:87
L:1989 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:68 after pos.:0
L:1992 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:68 after pos.:16
L:2098 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69 after pos.:0
L:2099 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69 after pos.:60